

REMARKS

Applicants submit that the present amendment is fully responsive to the Office Action dated November 16, 2007 and, thus, the application is in condition for allowance. Favorable reconsideration of this application in view of the foregoing amendments and remarks to follow is respectfully requested.

By this reply, claims 1, 3-4, 6, and 8-9 are amended. Claims 1-9 remain pending. Of these, claims 1-3 and 6-8 are independent.

In the outstanding Office Action, Figures 1-3 were objected to for not being designated by a "prior art" legend. Applicants herewith submit appropriately corrected drawings in compliance with 37 C.F.R. 1.121(d) that include the legend "prior art."

In the outstanding Office Action, claims 2-3 and 7-8 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, it is asserted that the "finger" claimed in claim 3 is the same as "signal processing to find out a maximum reception signal" in claim 2, thus these are duplicate claims. The same rationale is presented to reject claims 7-8. As amended, independent claim 3 now incorporates the subject matter of dependent claim 4, and claim 4 has been amended to depend only on claim 2. Similarly, claim 8 has been amended to incorporate the subject matter of dependent claim 9, and claim 9 is now dependent on independent claim 7. Thus, claims 2-3 and 7-8 are not duplicates, and the rejection under 35 U.S.C. §112 should be withdrawn.

In the outstanding Office Action, independent claims 1-3 and 6-8 were rejected under 35 U.S.C. § 103(b) as being unpatentable over Yoshiaki (JP 11-266228) in view of Hamada (U.S. Patent Application 20010020917) and further in view of Yoshida (U.S. Patent 7,215,699).

Specifically, it is asserted that while Yoshiaki discloses the prior art elements of the claimed invention, Hamada in view of Yoshida further discloses the novel elements of the claims. Applicants respectfully traverse.

With respect to claim 1, amended claim 1 discloses “said directivity being determined by the transmission antenna weight $W(n)$, determined by the formula:

$$W(n) = \frac{\sqrt{P_1}W_1(n) + \sqrt{P_2}W_2(n)}{\sqrt{P_1} + \sqrt{P_2}}$$

wherein P_1 is the maximum reception power level, $W_1(n)$ is the transmission antenna weight of the first beam having said maximum power level, and $W_2(n)$ is the transmission antenna weight of the second beam having the same path timing as the first beam, where $W_1(n)$ and $W_2(n)$ may be selected from a table storing the associative relationship between beams and transmission antenna weights.” Neither Hamada nor Yoshida disclose such a formula to determine transmission antenna weight. In fact, Hamada does not disclose any method to determine transmission antenna weight. Further, Yoshida merely discloses a Minimum Mean-Square Error method for computing antenna weights. See Yoshida, col. 8 lines 23-27. This is not the same as using two delay profiles from which the path timing has been detected and reception power levels obtained correspondingly to said path timings, as recited in claim 1.

As the Examiner conceded, Yoshiaki does not disclose all the elements of the present invention. Yoshiaki does not disclose transmission antenna weight generation at all. Further, the combination of Yoshiaki in view of Hamada further in view of Yoshida does not disclose all the elements of independent claim 1. Thus, claim 1 is allowable. In addition, claim 6 is simply a method utilizing the system in amended claim 1, and was rejected for the same reason. Thus, based on the above rationale, amended claim 6 is also allowable.

With respect to independent claim 2 (and corresponding method claim 7), it is asserted that it would have been obvious to modify Yoshiaki by incorporating the teachings of Hamada and Yoshida's devices detecting and generating a maximum reception signal power level from the reception signal so as controlling the directivities of the downlink transmission signals transmitted from the antenna based on the received signal. Applicants respectfully traverse. Hamada does not disclose "A transmission antenna weight generation for detecting a maximum reception signal power level from the reception signal power levels output from the plurality of signal processing and if the same path timing as the path timing set in a 1st signal processing in which the maximum reception signal power level is obtained is set in another signal processing..." In fact, this is not a single element or step of these claims, but a condition after which the substantial step of "generating transmission antenna weights" happens. Further, Yoshida does not disclose, as the Examiner alleges, "generating transmission antenna weights used for the transmission signals based on the reception power level of the first signal processing, the reception power level of the second signal processing in which the same path timing as the path timing set in the 1st signal processing is set, and reception antenna weights set in the 1st and 2nd signal processing."

As the Examiner conceded, Yoshiaki does not disclose all the elements of the present invention. Yoshiaki does not disclose transmission antenna weight generation at all. Further, as mentioned herein, Hamada does not disclose generating transmission antenna weights, and Yoshida does not disclose using the reception power level of the first and second fingers and the first and second reception antenna weights. Since the combination of Yoshiaki, in view of Hamada and further in view of Yoshida, does not disclose all the elements of independent claims 2 and 7, these claims are allowable.

With respect to claim 3 (and corresponding method claim 8), claims 3 and 8 were rejected for the same reason as claim 2 and 7. Based on the reasons provided above, claims 3 and 8 are therefore allowable. Further, amended claims 3 and 8 now include subject matter from dependent claims 4 and 9, respectively. In the outstanding Office Action, dependent claims 4 and 9 were rejected based on the assertion that Hamada teaches “generating transmission antenna weights using the angle of direction of a preset beam corresponding to the beam number, the number of linearly aligned element of the plurality of antennas, and the distance between the elements.” Applicants respectfully traverse. Hamada does not disclose “generating transmission antenna weights” as recited in Applicant’s claimed invention. At best, Hamada uses direction and phase attributes of beams at the mobile station. See Hamada, paragraphs 41-45. There is no teaching of generating transmission antenna weights. Thus, independent claims 3 and 7, and dependent claims 4 and 9 are allowable.

Although applicants have amended the claims in the above manner, applicants are not conceding in this application that the previous listing of claims is not patentable over the art cited by the Examiner. Applicants observe that the above amendments were performed to facilitate expeditious prosecution of the allowable subject matter noted by the Examiner. Applicants reserve the right to pursue these and other claims in one or more continuation and/or divisional applications.

Applicants observe that the above amendments to the claims obviate the obviousness rejections raised in the outstanding Office Action. As a consequence thereof, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Paul J. Esatto, Jr.', written in a cursive style.

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